

Fig 1 - Confocal Microscopy Images of Wetted Particles

Particles Cast in Liq. N2 - No.1

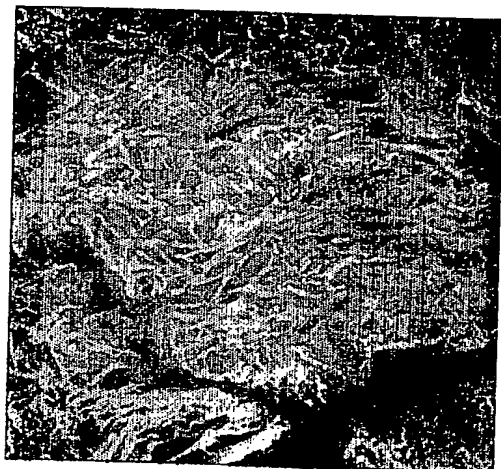
Particles Cast in Pentane @ -15C - No. 4

Particles Cast in Air @ -20C - No. 7

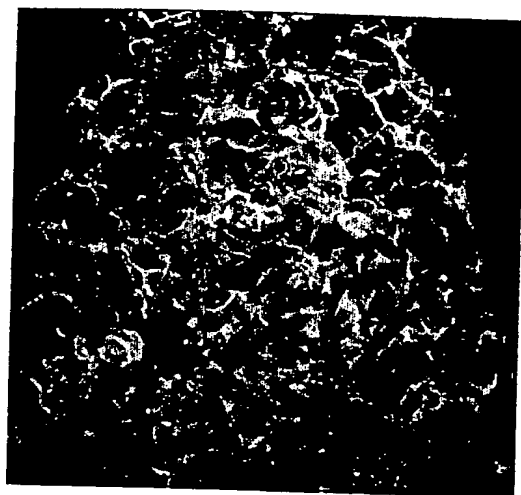
9 Step Wetting Procedure



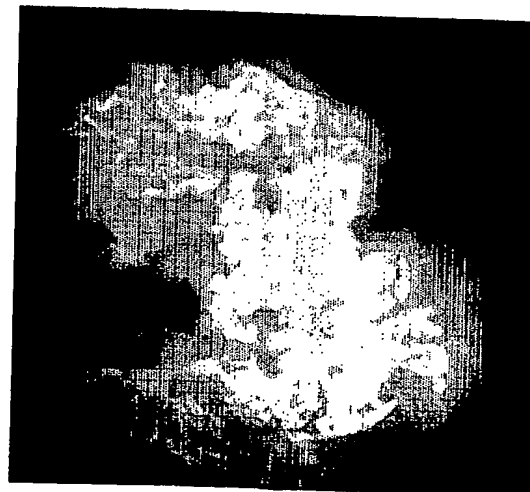
(a)



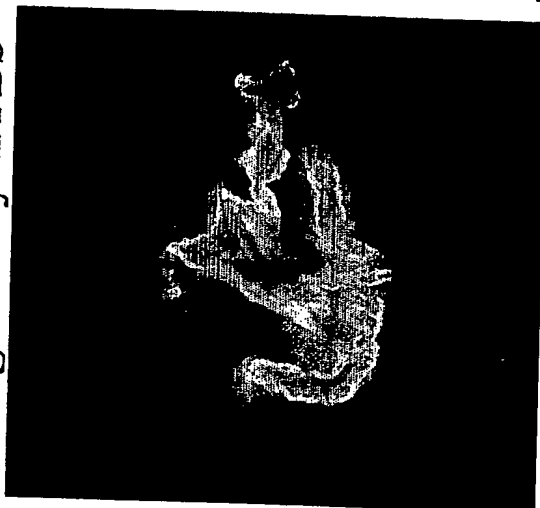
(b)



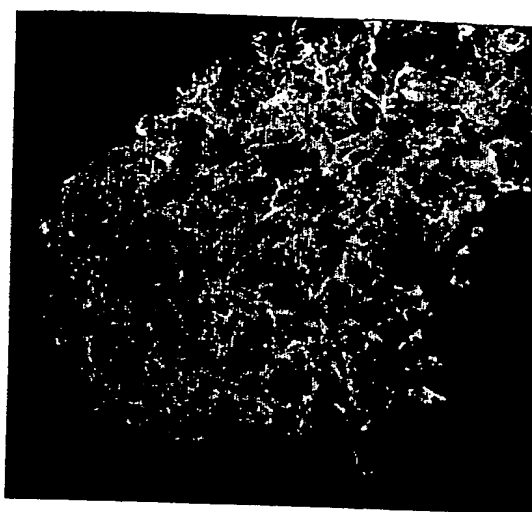
(c)



(d)



(e)



(f)

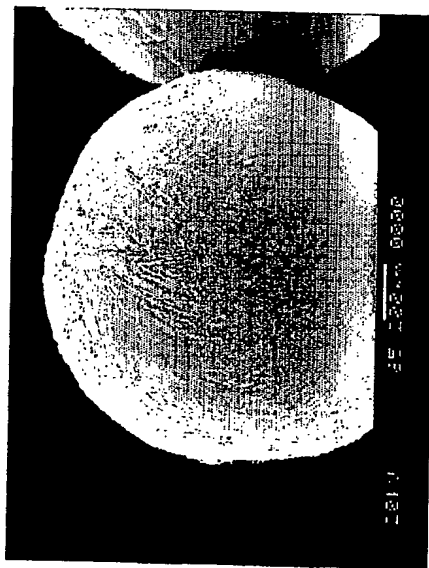
Wetting Directly in PBS

640u 640u 640u

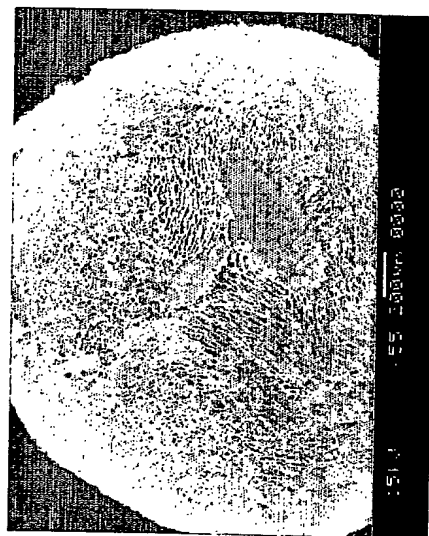
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Figure 2
Dry Particulate Collagen Sponges

Particles Cast in Liq. N₂ - No. 1



Particles Cast in Pentane @ -15C - No. 4



Particles Cast in Air @ -20C - No. 7

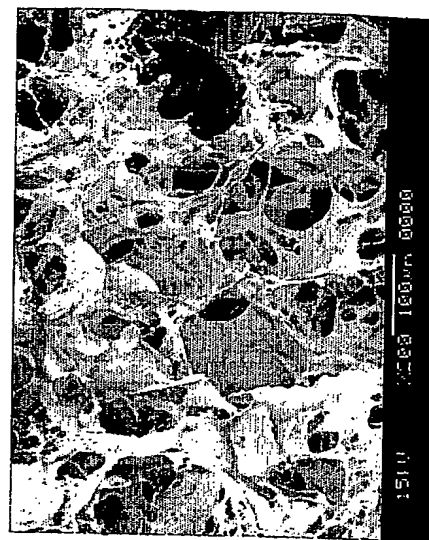
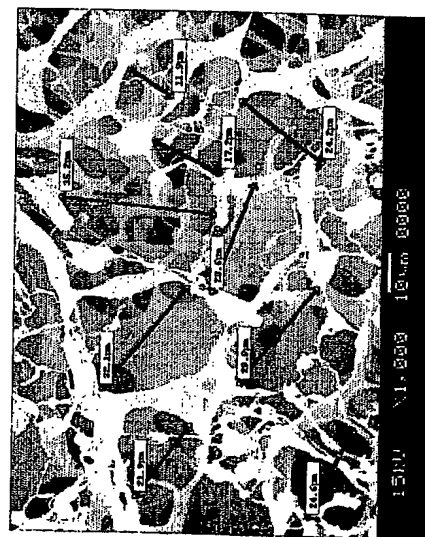
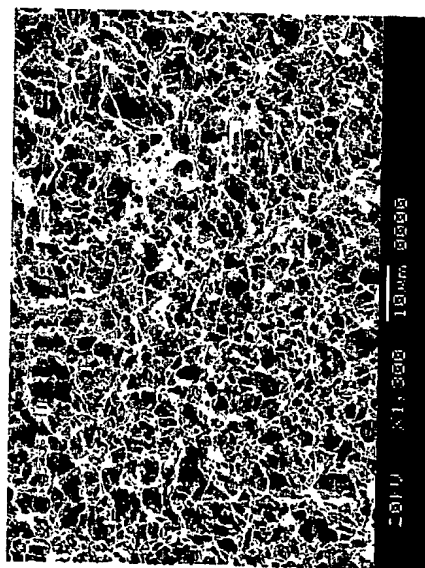
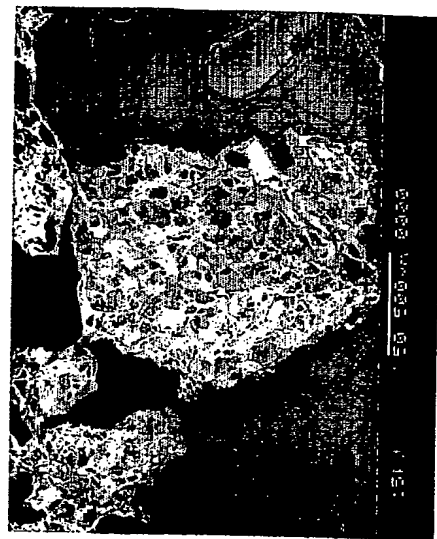


Fig 3

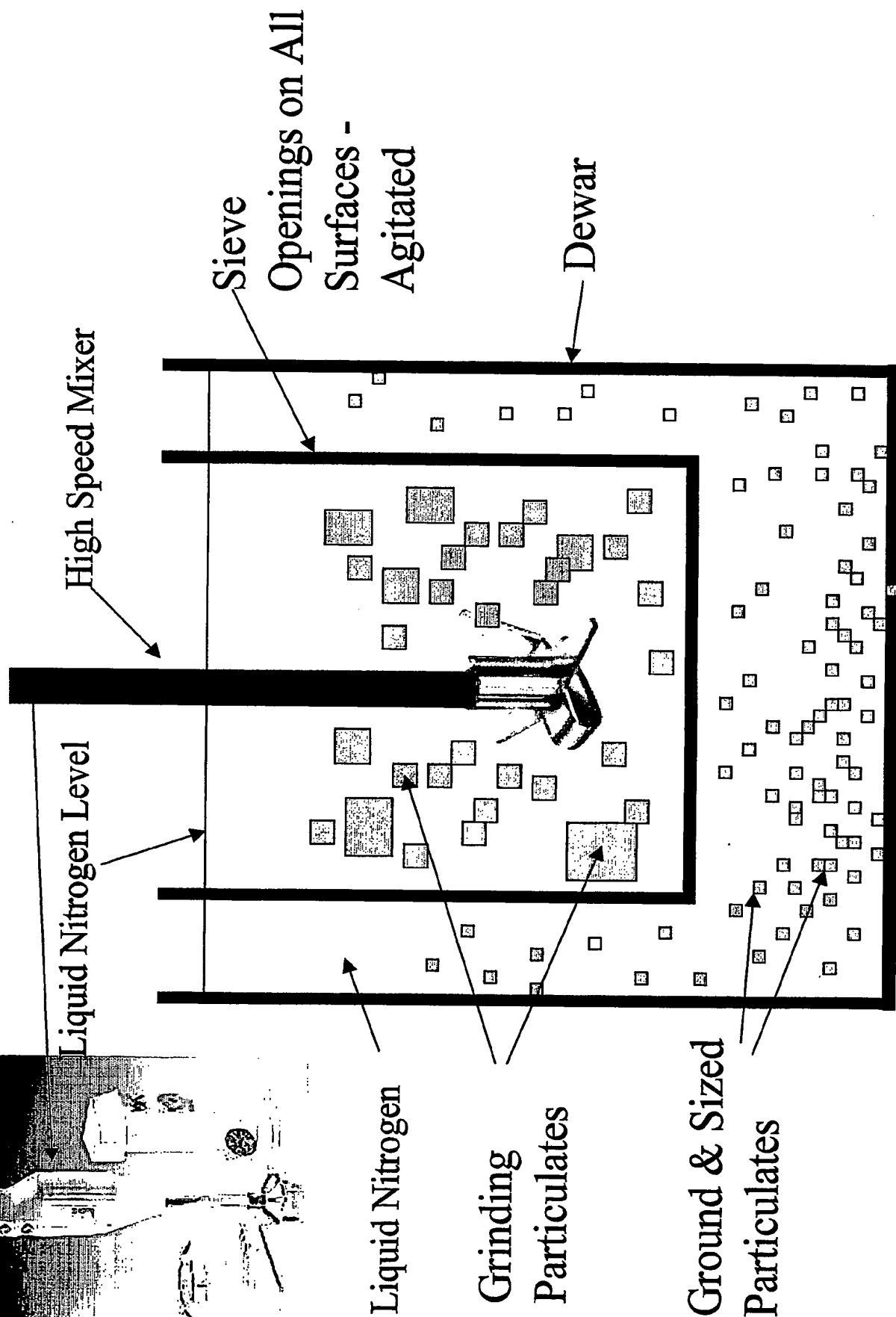
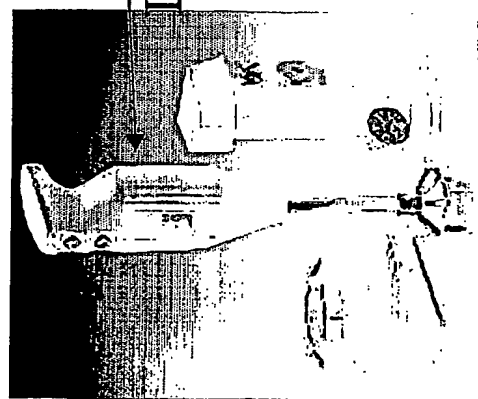


Figure 4
Effects of Wetting Procedure on Sample No. 7

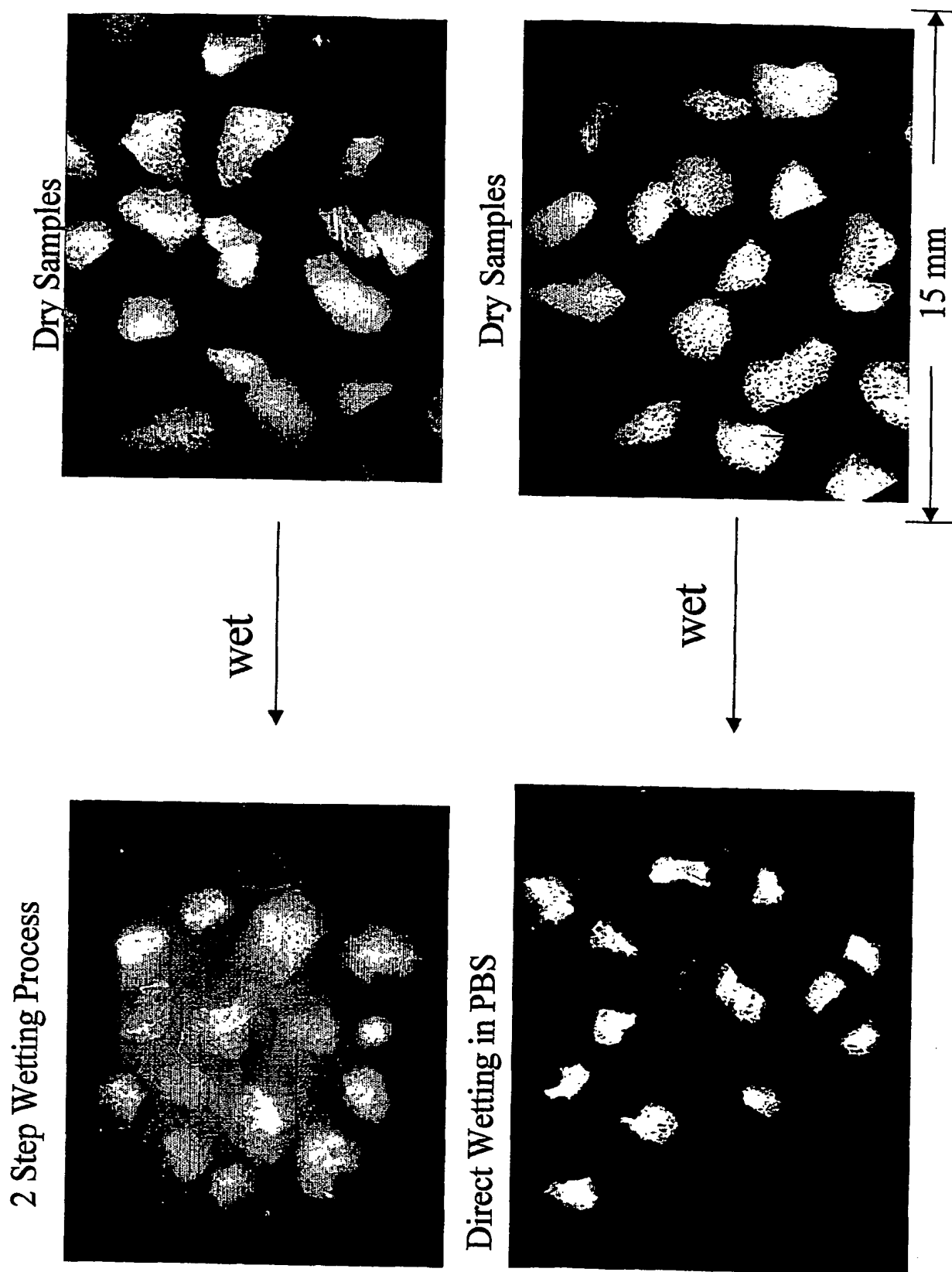
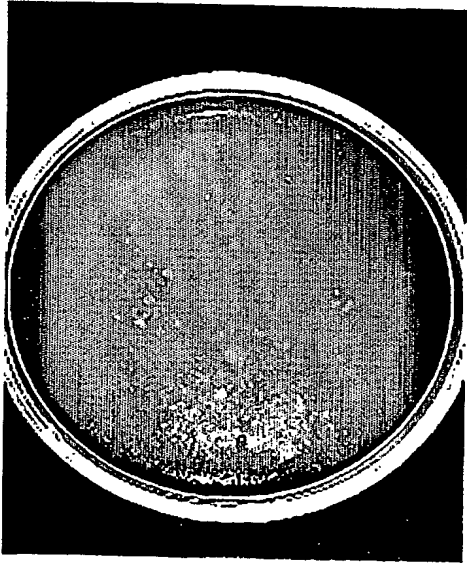
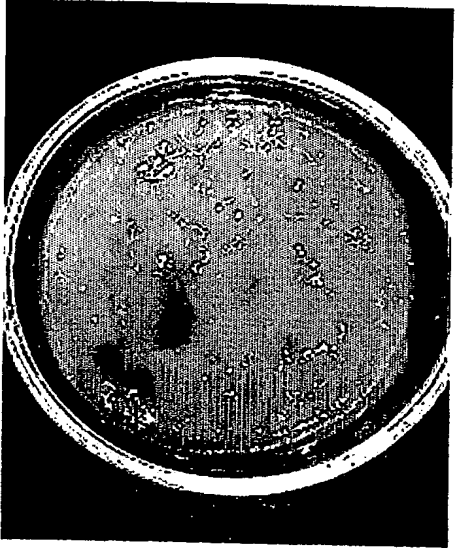


Fig. 5
Effects of Wetting Procedure on Sponge Sheets

2 Step Process



Direct Wetting in 70% ethanol



2"

Direct Wetting in PBS

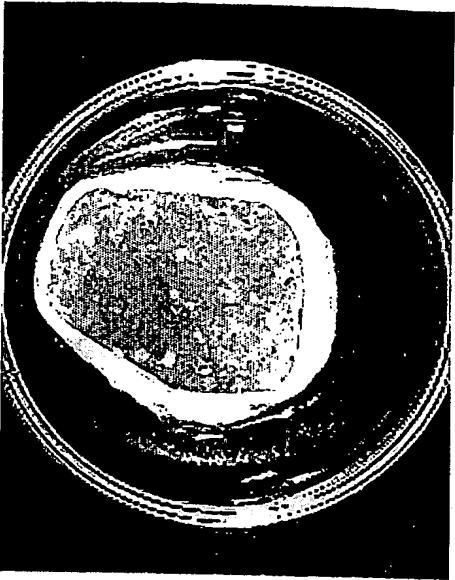


Fig 6
Proliferation of Porcine Fibroblasts on Collagen Particles

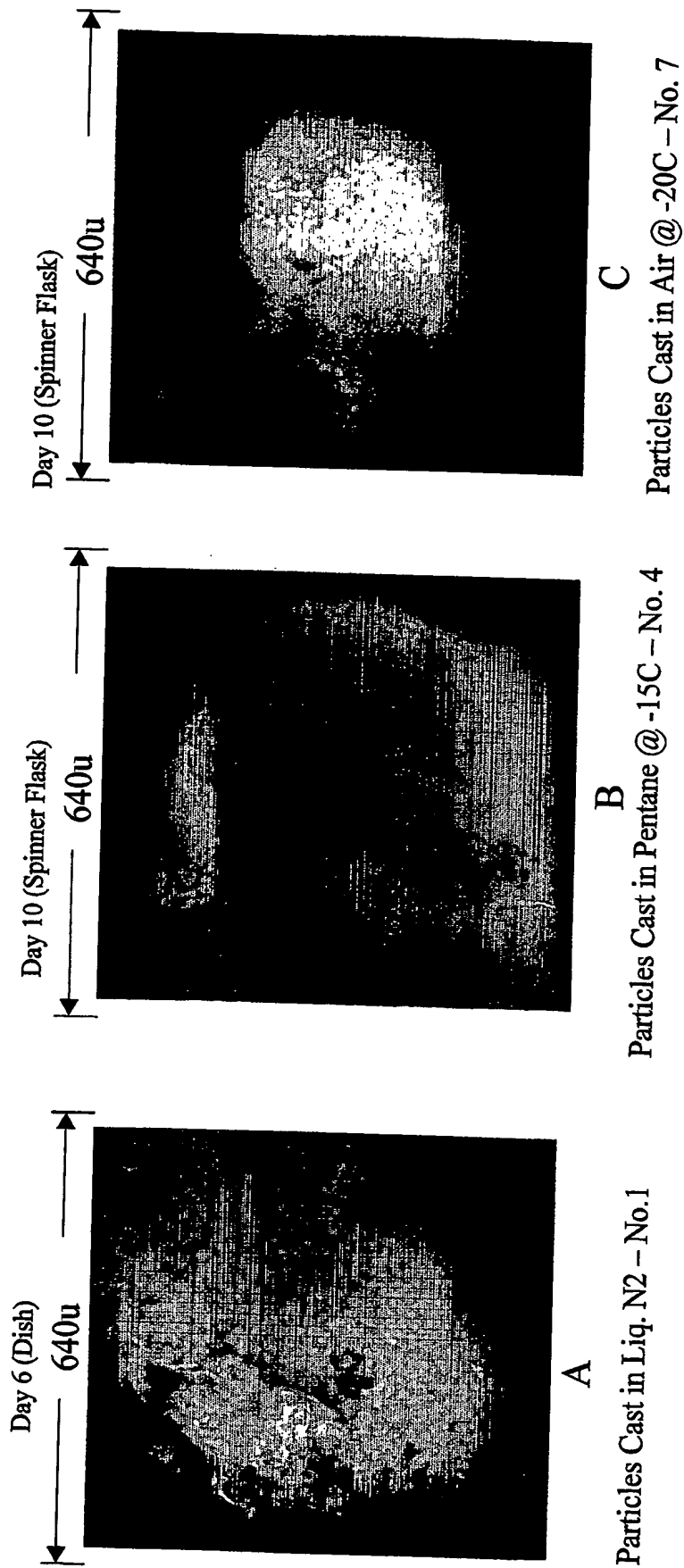


Figure 7

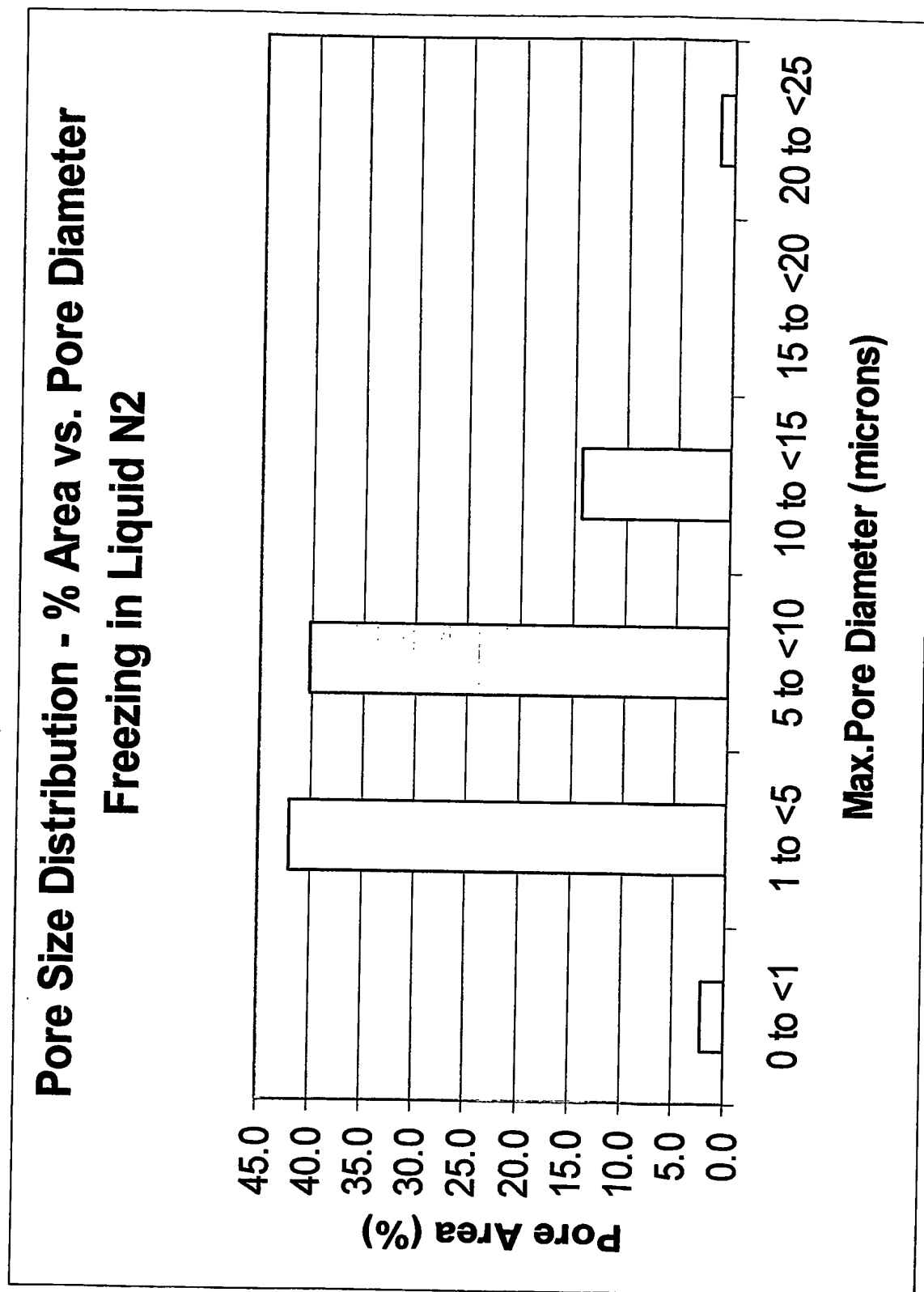


Figure 8

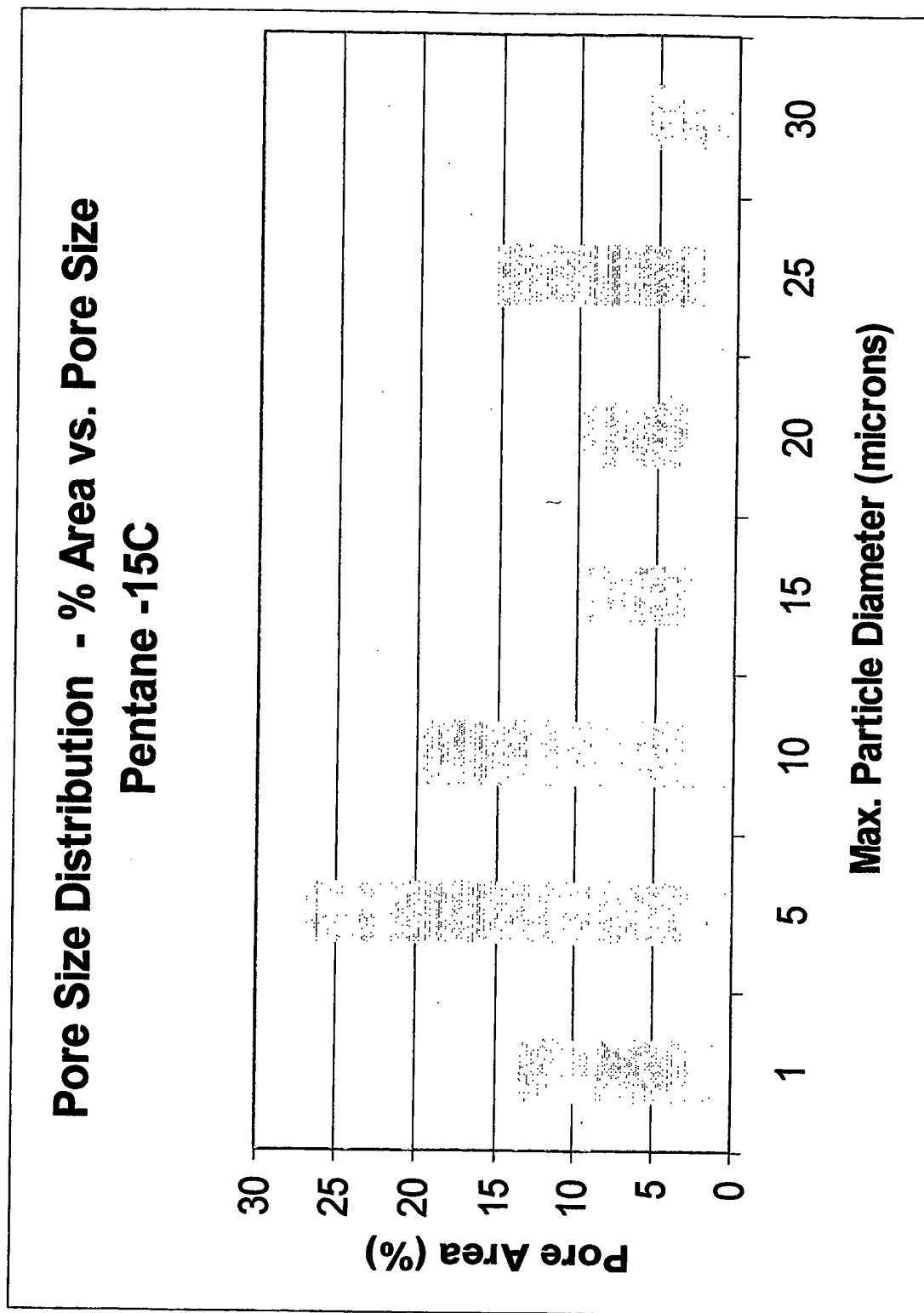


Figure 9

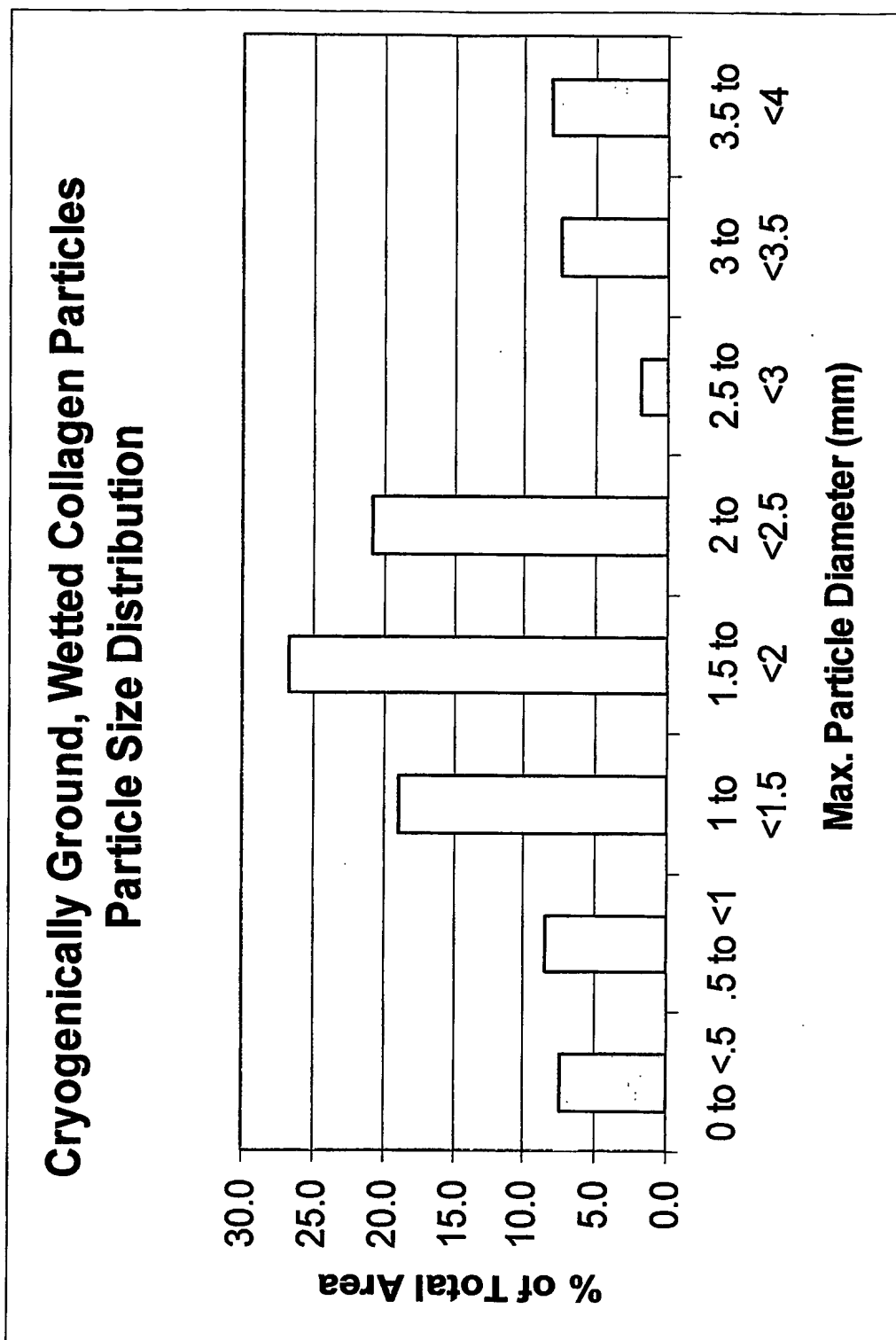


Fig. 10
Porcine Fibroblasts Cultured in vitro
On Porous Collagen Spheres
Pentane Spheres

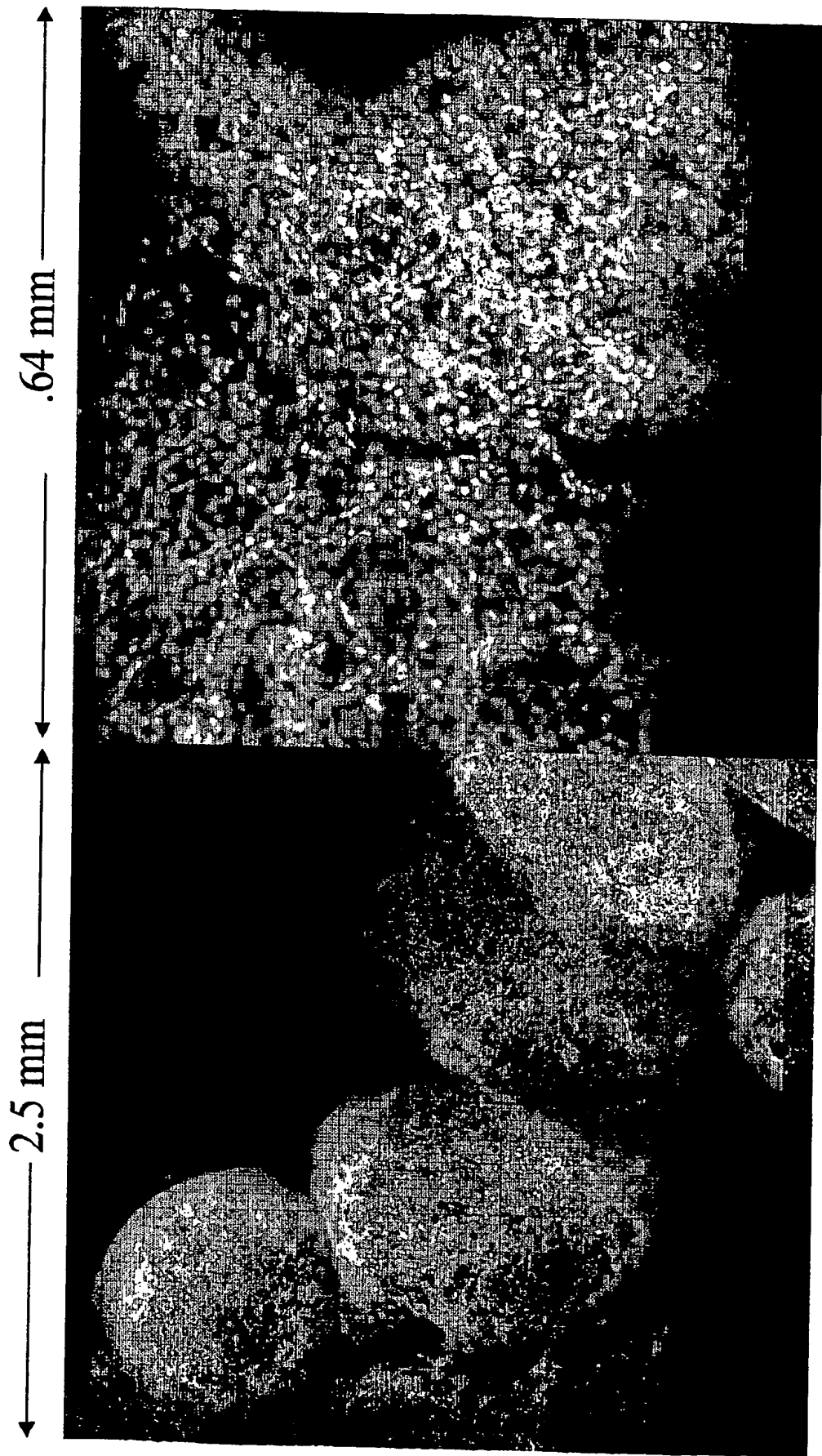


Figure 11
Continuous Process for Producing
Sheet-Like Tissue Matrix

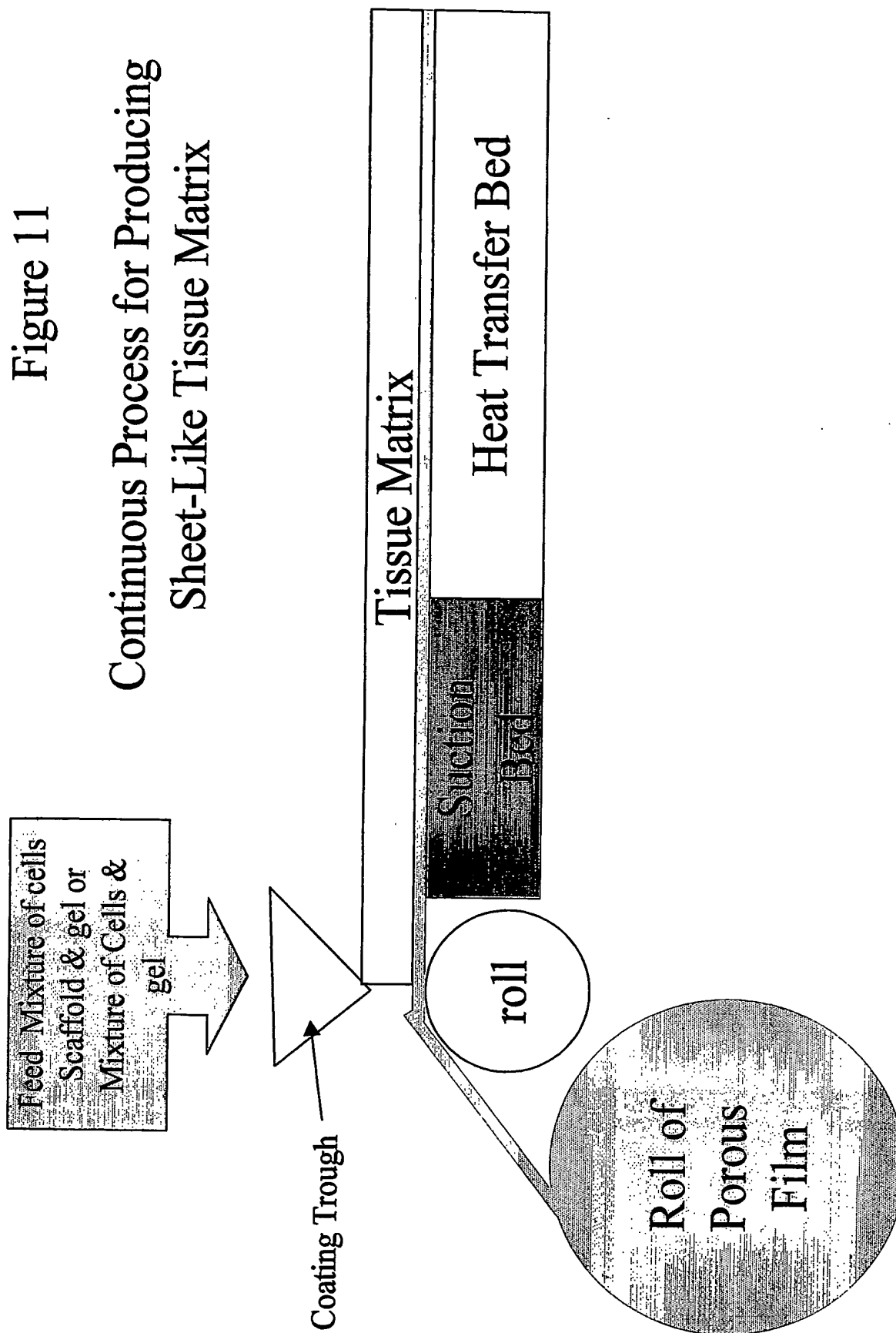


Figure 12
Particulate Biopolymer Scaffold Dispersed in a Biopolymer Gel
Seeded with Cells

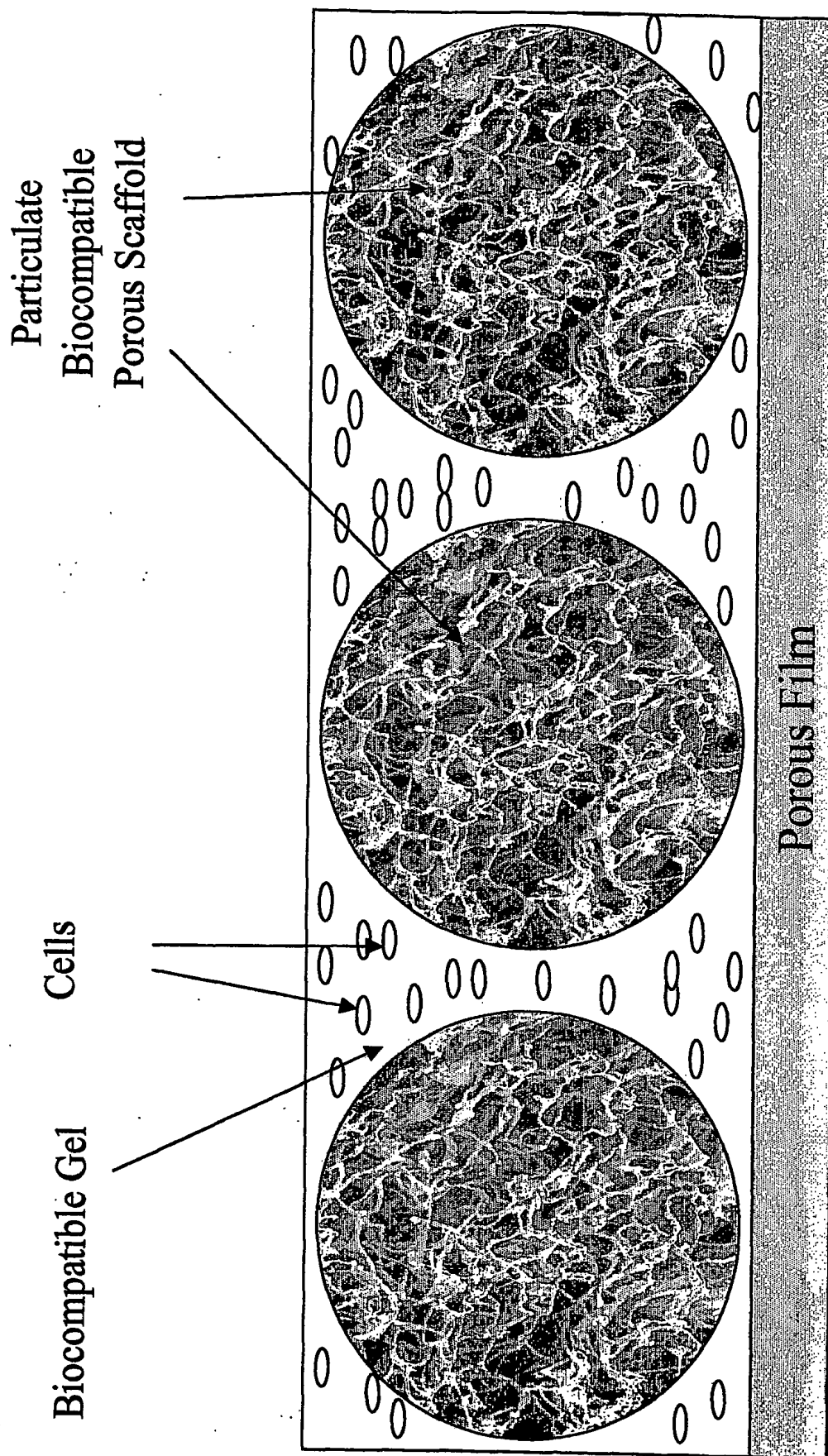
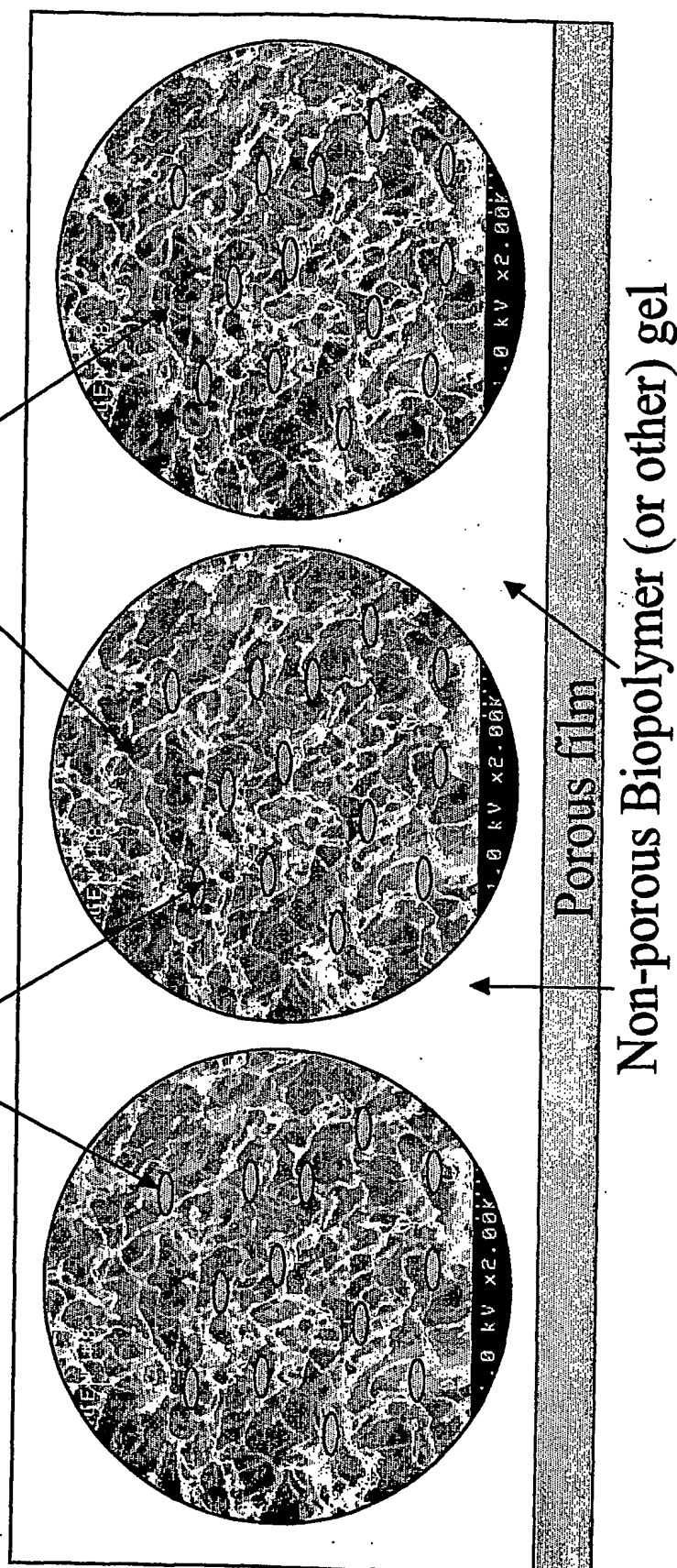


Figure 13
Dispersion of Particulate, Biopolymer Scaffold Particles,
Filled with Nutrient Solution, in a Biopolymer Gel
Cells Seeded in Scaffold

Porous Biopolymer Scaffold

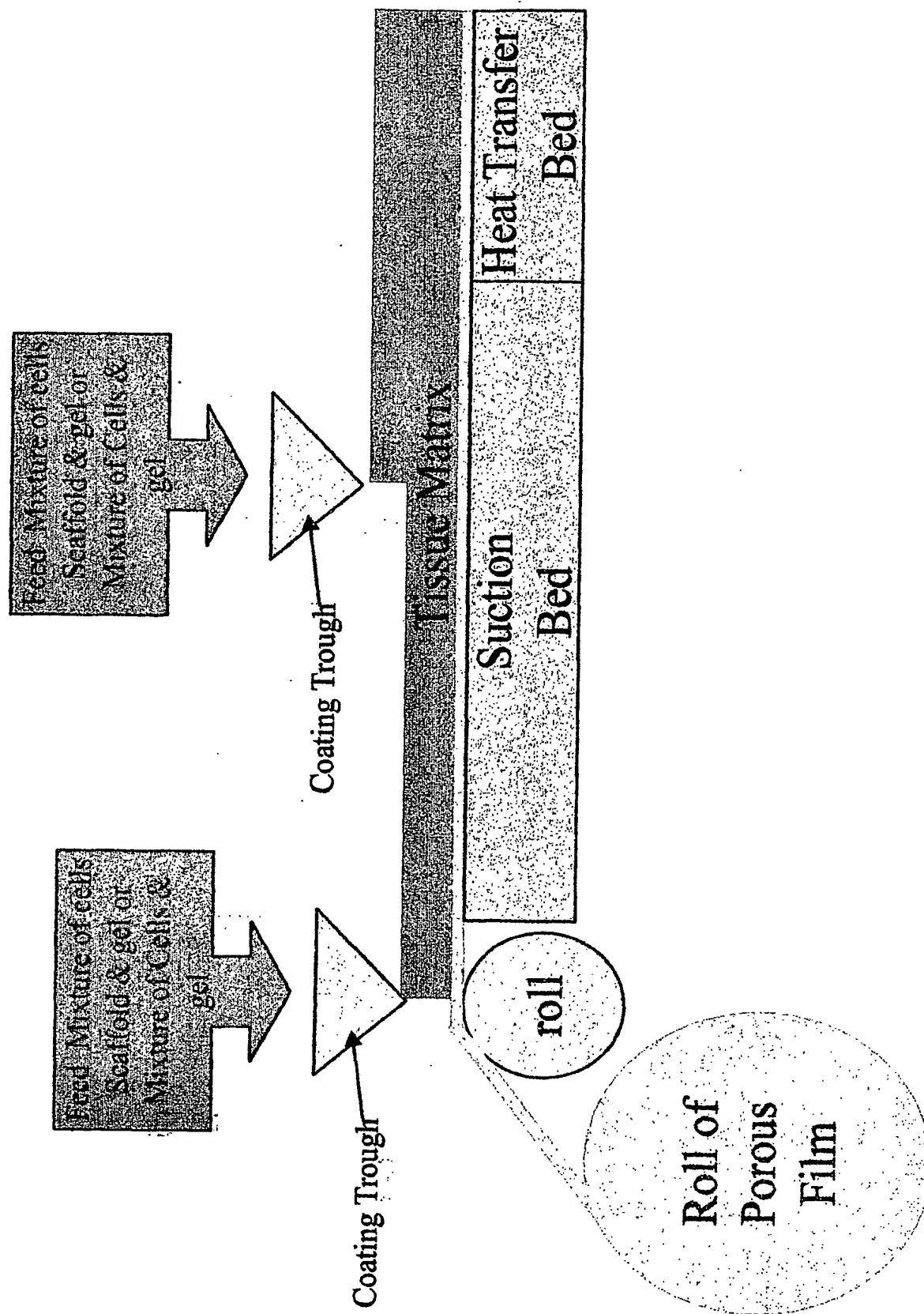
filled with nutrient

cells



Continuous Process for Producing
Sheet-Like Tissue Matrix

Figure 14



Multicellular Composite

Figure 15

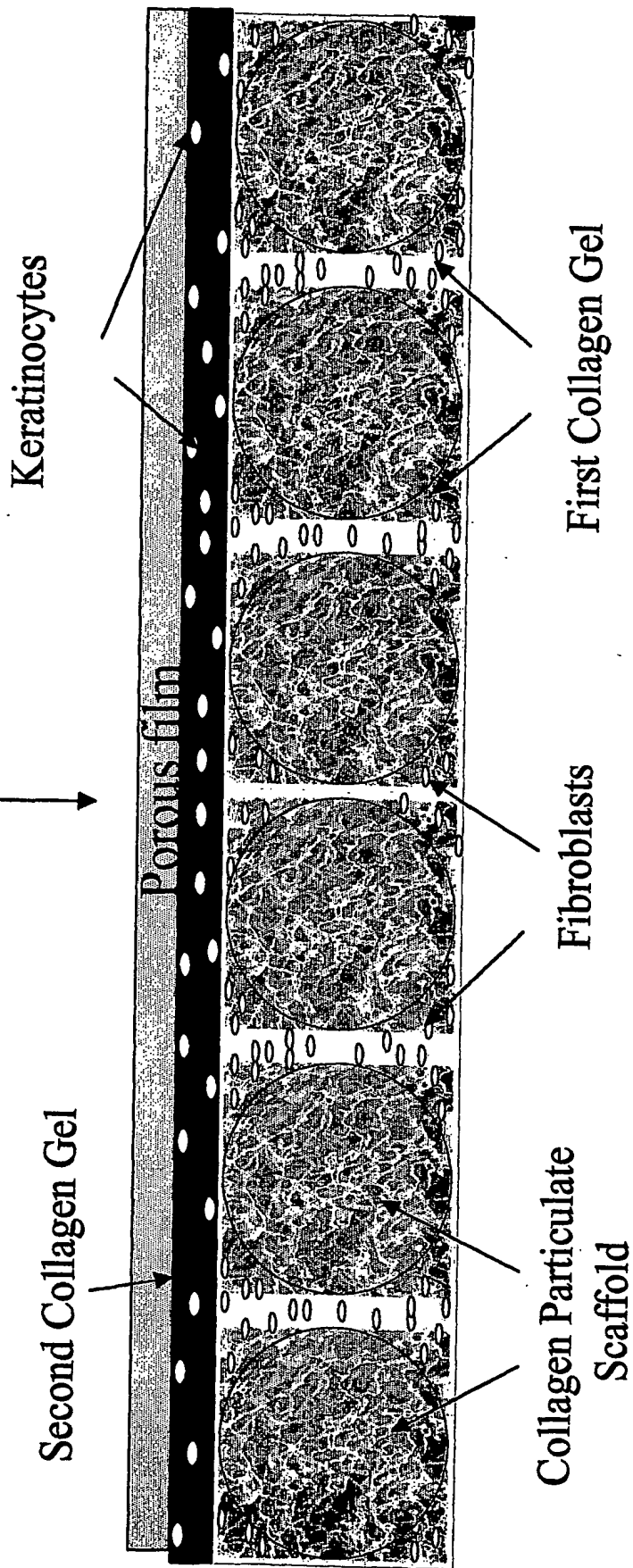
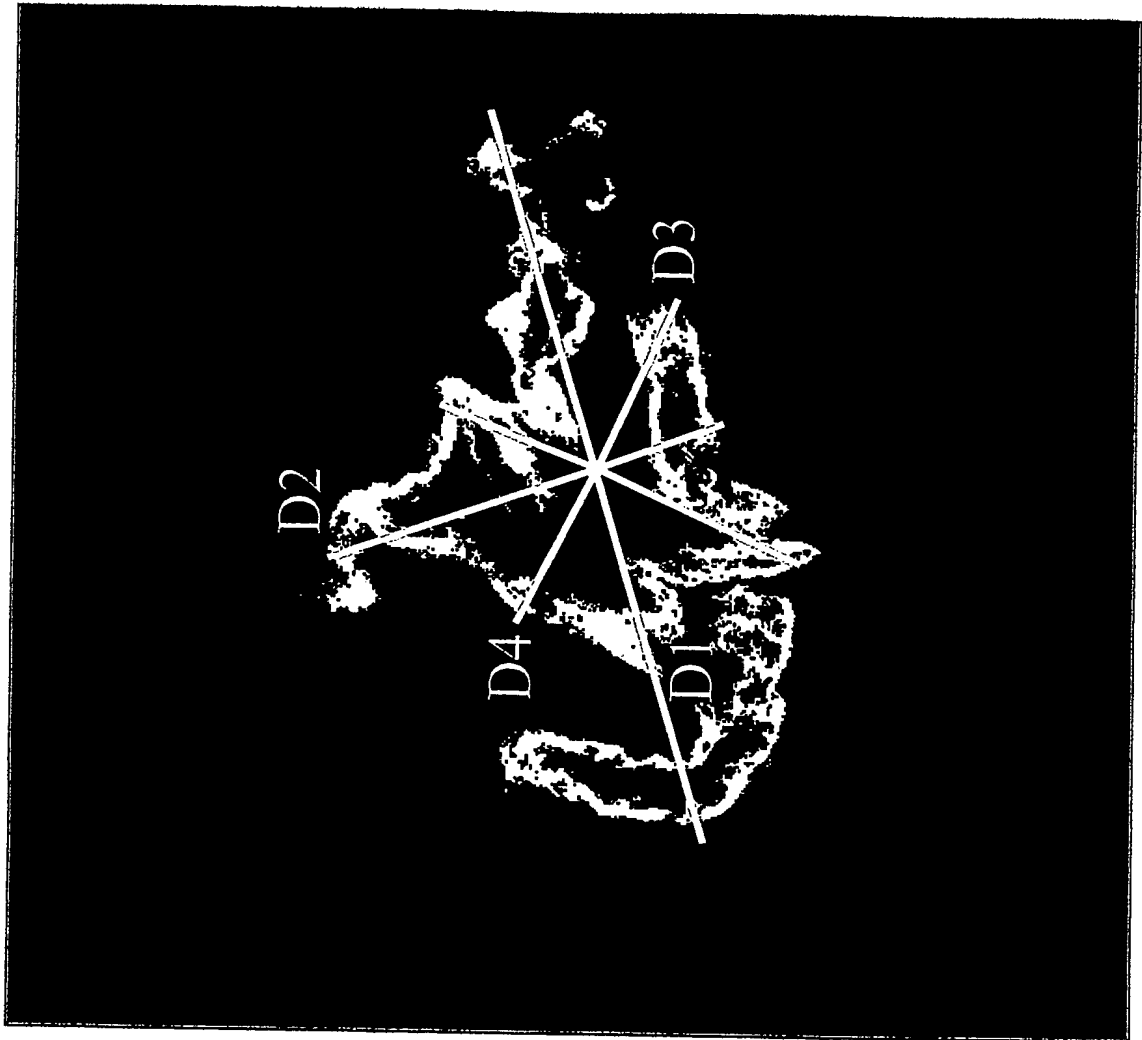


Figure 16



$$\begin{aligned} D1 &= 10.5 \\ D2 &= 5.5 \\ D3 &= 5.3 \\ D4 &= 5 \\ D_{avg} &= 6.6 \end{aligned}$$

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